

Amendments to Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (Currently Amended) A computer method for intelligent and interactive testing of one or more equipment under test-unit, comprising:

connecting said one or more equipment under test-unit to a testing system in a laboratory environment, wherein the said one or more equipment under test-unit is off-line from the normal installation of the said one or more equipment under test-unit;

receiving an output of said one or more equipment under test-unit into said testing system, wherein the testing system performs a real-time exchange of one of time-critical and state-critical messages and data representing real-time inputs and outputs to and from the said one or more equipment under test-unit for a protocol related to said use of said one or more equipment under test as if the unit one or more equipment under test is on-line in its normal installation, wherein said real-time inputs and outputs are selected from the group consisting of digital signals, analog signals, electromagnetic waves, sound waves, light waves, mechanical responses, chemical compositions, radiation waves, and biological entities;

providing an expert system operably connected to said testing system;

comparing, in said expert system, said real-time outputs with an expected result for said protocol at each one of said time-sensitive and state sensitive real-time inputs and real-time outputs; and

determining, in said testing system, if said real-time outputs complies with said expected result.

2 (Currently Amended) The method of claim 1, further comprising:

parsing the real-time outputs;

analyzing the real-time outputs for fact data in said expert system;

analyzing the real-time outputs for rule data in said expert system; ~~and~~

generating dynamic rules to supplement programmed rules; and

evaluating relationships of the facts and the rules within said real-time outputs across multiple input and output data units exchanged between the test system and ~~the~~said one or more equipment under test-unit to determine compliance of said output with said protocol at each one of said time-sensitive and state sensitive inputs for the expected protocol output rule data and fact data resulting from the inputs.

3 (Currently Amended) The method of claim 1, wherein said one or more equipment under test-unit ~~comprises a software code~~ are selected from the group consisting of a hardware component, a software component, a full software program, an electronic, and a mechanical equipment unit.

4 (Currently Amended) The method of claim 1, further comprising:

entering a plurality of inputs in addition to said real-time inputs into said one or more equipment under test-unit from said testing system; and

comparing a plurality of outputs with said expected result according to said plurality of inputs.

5 (Currently Amended) The method of claim 1, further comprising:

converting a plurality of commands from expert system;

formatting said plurality of commands into proper format for said protocol;

entering said formatted commands ~~as~~ input into said one or more equipment under test-unit from said testing system; and

comparing said output with an anticipated response of said one or more equipment under test-unit according to said input.

6 (Cancelled).

7 (Currently Amended) The method of claim 16, further comprising:

providing a communication link between a first of said one or more equipment under test-unit and ~~said~~ a second of said one or more equipment under test unit, wherein said second of said one or more equipment under test unit is connected said first of said one or more equipment under test-unit in the laboratory environment, wherein the second of said one or more equipment under test unit is off-line from the normal installation of the second of said one or more equipment under test unit;

capturing a communication data transferred between said first of said one or more equipment under test-unit and said second of said one or more equipment under test unit, wherein the capturing captures a real-time exchange of one of time-critical and state-critical messages and the data representing real-time inputs and outputs to and from the first of said one or more equipment under test-unit and the second of said one or more equipment under test unit for the protocol as if the second of said one or more equipment under test unit is on-line in its normal installation; and

analyzing, in a protocol analyzer, outputs from said second of said one or more equipment under test unit for compliance with the real-time protocol exchange

between the first of said one or more equipment under test-unit and the second of said one or more equipment under test unit.

8 (Cancelled).

9 (Original) The method of claim 1, further comprising:

providing a user interface module in said testing system that provides an external input and external output for the testing system.

10 (Original) The method of claim 1, further comprising:

providing a computer interface module in said testing system that provides an external input and external output for the testing system.

11 (Currently Amended). A system for intelligent and interactive testing a one or more equipment under test-unit, comprising:

a processor, comprising:

a testing module for receiving an output of said one or more equipment under test-unit, wherein ~~the~~said one or more equipment under test-unit is connected ~~said test-unit~~ to a testing system in a laboratory environment, wherein ~~the~~said one or more equipment under test-unit is off-line from the normal installation of ~~the~~said one or more equipment under test-unit, and wherein the testing system performs a real-time exchange of one of time-critical and state-critical messages and data representing real-time inputs and outputs to and from the test unit for a protocol related to said use of said one or more equipment under test as if the unit is on-line in its normal installation, wherein said real-time inputs and outputs are selected from the group consisting of digital signals, analog signals, electromagnetic waves, sound waves, light

waves, mechanical responses, chemical compositions, radiation waves, and biological entities; and

an expert system for comparing said output with an expected result for said output and for determining if said output complies with said expected result for said protocol at each one of said time-sensitive and state sensitive inputs and outputs.

12 (Currently Amended) The system of claim 11, wherein said expert system analyzes said one or more equipment under test-unit output for a fact data, analyzes the said one or more equipment under test-unit output for a protocol rule data, evaluates relationships of said fact data and said rule data between a plurality of outputs of said one or more equipment under test-unit across multiple input and output data units exchanged between the test system and ~~the~~said one or more equipment under test-unit, and determines whether said output complies with said protocol at each one of said time-sensitive and state sensitive inputs for the expected protocol output rule data and fact data resulting from the inputs.

13 (Currently Amended) The system of claim 11, wherein said one or more equipment under test-unit comprises a software code are selected from the group consisting of a hardware component, a software component, a full software program, an electronic, and a mechanical equipment unit.

14 (Currently Amended) The system of claim 11, further comprising:

a control module for entering an input into said one or more equipment under test-unit, wherein said expert system compares said output with said expected result according to said input.

15 (Currently Amended) The system of claim ~~14~~14, ~~further comprising:~~ wherein a said control module converts and formats a plurality of commands from expert system and transmits said commands for entering an as input into said one or more equipment

under test-unit, wherein said expert system compares said output with an anticipated response of said one or more equipment under test-unit according to said input.

16 (Cancelled).

17 (Currently Amended) The ~~method~~system of claim ~~11~~146, further comprising:

a communication link between a first of said one or more equipment under test-unit and ~~said~~ a second of said one or more equipment under test-unit wherein said second of one or more equipment under test-unit is connected first of said one or more equipment under test-unit in the laboratory environment, wherein the second of said one or more equipment under test-unit is off-line from the normal installation of the second of said one or more equipment under test-unit; and

a protocol analyzer, operably connected to said testing system, wherein said testing system captures a real-time exchange of one of time-critical and state-critical messages and the data representing real-time inputs and outputs to and from the first of said one or more equipment under test-unit and the second of said one or more equipment under test-unit for the protocol as if the second of said one or more equipment under test-unit is on-line in its normal installation, and wherein said protocol analyzer analyzes said communication data for compliance with the real-time protocol exchange between the first test unit and the second of said one or more equipment under test-unit.

18 (Original) The system of claim 11, further comprising:

a user interface module in said testing system for providing an external input and output into said testing system.

19 (Original) The system of claim 11, further comprising:

a computer interface module in said testing system for providing an external input and output into said testing system.